

Applicants: Graham P. Allaway et al.  
Serial No.: 09/904,356  
Filed: July 12, 2001  
**Exhibit 22**

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# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: JOHN P. WHITE  
COOPER & DUNHAM  
1185 AVENUE OF THE AMERICAS  
NEW YORK, NEW YORK 10036

PCT

## NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

6/5/95

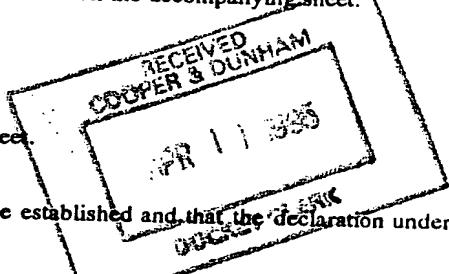
Applicant's or agent's file reference  43966-A-PCT	Date of Mailing (day/month/year)  05 APR 1995 16.14
International application No.  PCT/US94/14561	FOR FURTHER ACTION See paragraphs 1 and 4 below  International filing date (day/month/year) 16 DECEMBER 1994
Applicant  PROGENICS PHARMACEUTICALS, INC.	

1.  The applicant is hereby notified that the international search report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):  
  
When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.  
  
Where? Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.



2.  The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3.  With regard to the protest against payment of (an) additional fee(s) under Rule 40'2, the applicant is notified that:

- the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Further action(s): The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in rules 90 bis 1 and 90 bis 3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231  
Facsimile No. (703) 305-3230

Form PCT/ISA/220 (January 1994)\*

Authorized officer

JEFFREY STUCKER

*Nathan E. Tipton Jr.*

Telephone

Applicants: Graham P. Allaway et al.

Serial No.: 09/904.356

Filed: July 12, 2001

Exhibit 22

(et)

## PATENT COOPERATION TREATY

**PCT**

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 43966-A-PCT	<b>FOR FURTHER ACTION</b>	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US94/14561	International filing date (day/month/year) 16 DECEMBER 1994	(Earliest) Priority Date (day/month/year) 17 DECEMBER 1993
Applicant PROGENICS PHARMACEUTICALS, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1.  Certain claims were found unsearchable (See Box I).
2.  Unity of invention is lacking (See Box II).
3.  The international application contains disclosure of a nucleotide and/or amino acid sequence listing and the international search was carried out on the basis of the sequence listing
  - filed with the international application.
  - furnished by the applicant separately from the international application,
    - but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
    - transcribed by this Authority.
4. With regard to the title,  the text is approved as submitted by the applicant.
  - the text has been established by this Authority to read as follows:
5. With regard to the abstract,
  - the text is approved as submitted by the applicant.
  - the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the drawings to be published with the abstract is:  
Figure No. \_\_\_\_\_
  - as suggested by the applicant.
  - because the applicant failed to suggest a figure.
  - because this figure better characterizes the invention.

None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US94/14561

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/US94/14561**Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)**

The abstract is too long (PCT Rule 8.1(b)). The abstract must be less than 150 words, or 200 words when no Figure is to be published.

**NEW ABSTRACT**

The subject invention provides methods for determining whether an agent is capable of either inhibiting or specifically inhibiting the fusion of a CD4+ cell with an HIV-1 envelope glycoprotein+ cell. The subject invention also provides a method for determining whether an agent is capable of specifically inhibiting the infection of a CD4+ cell with HIV-1. This invention also provides methods for quantitatively determining the ability of an antibody-containing sample to either inhibit or specifically inhibit the fusion of CD4+ cell with an HIV-1 envelope glycoprotein+ cell.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US94/14561

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :C12Q 1/02, 1/70; G01N 21/17, 33/53

US CL :Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/5, 7.1, 7.2, 7.21, 7.24, 29, 968, 974; 436/800; 530/350; 422/82.05, 82.08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS, AIDSLINE, Medline

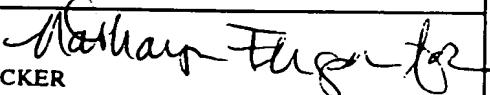
**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	The Journal of Histochemistry and Cytochemistry, Volume 30, Number 12, issued December 1982, Wanda et al., "A General Method for Heterokaryon Detection Using Resonance Energy transfer and a Fluorescence-activated Cell Sorter", pages 1297-1300, see entire document.	1-19
Y	AIDS Research and Human Retroviruses, Volume 7, Number 10, issued 1991, Dimitrov et al., "Initial Stages of HIV-1 Envelope Glycoprotein-Mediated Cell Fusion Monitored by a New Assay Based on Redistribution of Fluorescent Dyes", pages 799-805, see entire document.	1-19

Further documents are listed in the continuation of Box C.  See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 13 MARCH 1995	Date of mailing of the international search report 05 APR 1995
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Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer JEFFREY STUCKER 
Faxsimile No. (703) 305-3230	Telephone No. (703) 308-0196

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US94/14561

**A. CLASSIFICATION OF SUBJECT MATTER:**  
US CL :

435/5, 7.1, 7.2, 7.21, 7.24, 29, 968, 974; 436/800; 530/350; 422/82.05, 82.08

**BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING**

This ISA found multiple inventions as follows:

- I. Claims 1-17, drawn to a method of screening for agents which block gp120-CD4 binding.
- II. Claims 18-19, drawn to agents which inhibit gp120-CD4 binding.

The inventions are distinct, each from the other because of the following reasons:

The invention of Group I is a method of screening agents for efficacy in blocking cells. The invention of Group II is an unspecified agent that blocks the merging of cells expressing gp120 and CD4. The inventions are distinct because the agent can be discovered by methods other than the method of Group I. Thus, the inventions are not linked by a special technical feature within the meaning of PCT Rule 13.2, so as to form a single inventive concept.

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